



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 28 1983

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MEMORANDUM

SUBJECT: Enforcement of National Emissions Standard for Vinyl Chloride

FROM: Michael S. Alushin *M. S. Alushin*  
Acting Associate Enforcement Counsel for Air

Edward E. Reich, Director *E. E. Reich*  
Stationary Source Compliance Division

TO: Regional Counsels, Regions I-VI & IX

Directors, Air and Waste Management Divisions  
Regions II-IV, VI

Directors, Air Management Divisions  
Regions I, V, and IX

In order to encourage consistency in enforcing the standards governing emissions of vinyl chloride, 40 CFR Section 61.60 et seq., this memorandum summarizes our enforcement activity to date and sets out some general guidelines for determining when enforcement action may be necessary.

History of Vinyl Chloride Enforcement

So far, most of the actions initiated by EPA have been to enforce the relief valve discharge standard, Section 61.65(a). Eleven cases have been referred to EPA HQ citing violations of this standard, nine of which have been solely for relief valve discharges. Of these, two have been filed and concluded by consent decree, three are ongoing filed actions, five have been referred to the Department of Justice or U.S. Attorney, and one is under review in EPA Headquarters.

Enforcement of other portions of the vinyl chloride regulations has been limited. Two civil actions were filed in 1979 for failure to comply with the 10 ppm exhaust gas limitation by the end of the two-year waiver period authorized in Section 112 of the Act. These actions were concluded by consent decree.

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Four other case referrals were never filed and are no longer active. Two of these were to enforce the 10 ppm standard, and the other two cited various parts of the regulation, including the stripping and reactor opening loss standards.

#### Guidelines for Vinyl Chloride Enforcement

We do not wish to establish a rigid standard for what degree of violations rises to the level of an actionable claim. However, the following factors should be considered to determine whether action to enforce the relief valve discharge standard is warranted:

- 1) The frequency and size of the discharges. We encourage you to develop and refer enforcement actions where either or both of these factors is significant. For example, one filed action involved a total release of only 1,100 pounds of vinyl chloride but a large number (21) of violations. Another case was referred for only two discharges where one of them was for 25,000 pounds.
- 2) Length of time elapsed since most recent discharge. This may be an indication of whether the source has solved the problems which were causing the discharges. We have referred in the past, and we will continue to refer, cases seeking penalties only for past violations. However, you should place a higher priority on enforcement against sources which are continuing to experience discharges.
- 3) Violations of the reporting requirement. Section 61.65(a) requires a company to report the occurrence of any relief valve discharge within 10 days. This requirement applies even if the company claims that the discharge was not preventable and thus not a violation. A few of the cases have involved failures to report, and in many instances EPA only learned of the discharges through issuance of a Section 114 letter. We consider reporting violations to be very serious, because our ability to enforce the standard hinges directly on self-reporting. The existence of reporting violations should weigh very heavily in the direction of initiating enforcement action.
- 4) Need for remedial measures. Even where the frequency and size of discharges is relatively small, enforcement action should be carefully considered if measures can be identified which EPA believes will prevent future discharges due to the same causes.
- 5) State enforcement activity. Authority to enforce the vinyl chloride standards has been delegated to many states. This authority is concurrent with, and does not displace, EPA enforcement authority. If a plant is located in a state where the

program has been delegated, an initial contact with the state should be helpful in determining whether EPA needs to initiate enforcement. EPA should be prepared to take action, however, in any situation in which the state indicates it will not enforce or fails to do so adequately and in a timely manner.

We interpret the standard to establish a presumption that any relief valve discharge is a violation, with the company having the burden to show that it was preventable. Nonetheless, to be in a strong position to litigate a case, the Agency should be prepared to show that specific measures are available which could have prevented the discharge, and that such measures were not taken by the source.

A litigation report forwarded to Headquarters should include, at a minimum:

- 1) The date and size of each relief valve discharge, including those determined to be emergencies.

- 2) The Region's determination as to whether each discharge is preventable, i.e., a violation.

- 3) An analysis of the cause of each discharge. Attachment 1 is an example of the technical evaluation of a company's discharges which was included as an exhibit to a litigation report referred to HQ.

- 4) A description of remedial measures designed to prevent the types of discharges which have occurred at the plant. As you can see from Attachment 1, this is a logical complement to the analysis of the cause of each discharge.

- 5) A proposal for a minimum settlement penalty figure. Attachment 2 contains the informal guideline which EPA HQ has been using to derive a settlement penalty figure to assign to relief valve discharges and to reporting violations. We would appreciate your comments and suggestions, if any, of ways in which these schemes can be improved.

Depending on the level of detail contained in the 10-day report submitted by the company, the Region may have to seek more information using a Section 114 letter to properly prepare the litigation report. Examples of records which may be useful are logs, written maintenance procedures, inspection manuals, incident reports, employee records (to show possible disciplinary action or failure to take such action), strip charts, etc. This is potentially potent evidence, because it may reveal answers to such questions as:

1) Was the company following its own standard operating procedures?

2) Did the company allow a discharge to occur in order to preserve the integrity of the product and thereby save money? (E.g., low grade resin is less profitable than high grade resin, and this may affect operating decisions.)

3) Did the operator fail to recognize upset conditions?

4) Did the company fail to replace defective equipment despite a prior history of problems?

5) Did the company fail to analyze a recurring problem?

6) Did the company perform an engineering study (or retain a consultant to do so) and fail to adhere to the study's recommendations?

Attachment 3 is a sample Section 114 letter which was used to develop the litigation report in one of the cases referred to Headquarters.

This discussion has focused so far on enforcement of the relief valve discharge standard. We are also concerned that the Regions be consistent in enforcing other major provisions of the vinyl chloride standard, such as the stripping and reactor opening loss standards. As a legal matter, a single excursion of the stripping or reactor opening loss requirement can form the basis of an enforcement action. Because a single plant can process thousands of batches each year, however, it becomes a policy determination as to whether some level of violation will be viewed as not warranting enforcement action. At this point, EPA HQ is not prepared to give guidance on the appropriate threshold for initiation of enforcement of these portions of the standard, primarily because we have very little information on the level of compliance throughout the industry and no history of enforcement. One general observation applicable to these standards is that, as with the relief valve discharge standard, the Agency should strongly consider enforcement action if specific remedial measures can be identified which will reduce or eliminate the noncompliance. Also, the threshold for initiating the enforcement process, e.g., issuing a Section 114 letter, should probably be less than for referring a civil action.

We request your help in developing guidelines for enforcement of portions of the vinyl chloride standard other than the relief valve discharge standard. Specifically, we would appreciate suggestions as to factors which should be used to determine when enforcement action should be initiated. We request, from each Region, a summary for each source of the percentage and magnitude

of violations of the stripping and reactor opening loss standards shown in the two most recent semiannual reports. In addition, Region I has indicated a need for the information listed in Attachment 4. We feel that such information can be valuable to the extent that it can be gathered from existing Agency records without conducting plant inspections or issuing Section 114 letters. This information should be submitted to Richard Biondi of the Stationary Source Compliance Division by July 29, 1983.

If you have any questions about this memorandum, please contact Elliott Gilberg of the Office of Enforcement Counsel (FTS 382-2864) or Mr. Biondi (FTS 382-2845).

Attachments

cc w/attachments:

NESHAP Contacts, Regions I-VI, IX



## ATTACHMENT 2

### PENALTIES FOR VINYL CHLORIDE RELIEF VALVE DISCHARGES

#### Penalty Assessed for Each Discharge

<u>Pounds of Vinyl Chloride Released</u>	<u>Penalty</u>
0 - 1000	\$ 1000
1 - 2000	2000
2 - 3000	3000
3 - 4000	4000
4 - 5000	5000
5 - 7500	10,000
7500 - 10,000	15,000
10 - 12,500	20,000
over 12,500	25,000

Other statutory bases for mitigation may apply -  
e.g., economic impact of the penalty on the business





## PENALTIES FOR RELIEF VALVE DISCHARGE REPORTING VIOLATIONS

- 1) Failure to report discharges of 10 pounds or less:

\$2500/discharge

- 2) Failure to report discharges greater than 10 pounds:

\$25000/discharge

Discounts for reporting voluntarily (i.e., not in response to 114 letter):

Within 6 months	80%
6-12 months	65%
12-24 months	50%
24 months	25%
Over 24 months	0%

Other statutory bases for mitigation may apply - e.g., the economic impact of the penalty on the business



ATTACHMENT 3  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II  
26 FEDERAL PLAZA

NEW YORK, NEW YORK 10007

MAY 20 1980

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. William Wetzel  
Plant Manager  
Hooker Chemical Company  
Ruco Division  
P. O. Box 456  
River Road  
Burlington, New Jersey 08016

Re: Hooker Chemical Company  
Ruco Division  
Burlington, New Jersey Plant

Dear Mr. Wetzel:

Section 114 of the Clean Air Act, as amended, 42 U.S.C. §7414 ("the Act"), authorizes the EPA Administrator (or his duly authorized delegate) to require the submittal of certain information by emission sources to enable EPA to determine their status of compliance with an applicable standard promulgated pursuant to Sections 111 or 112 of the Act and with any requirement of an implementation plan pursuant to Section 110 of the Act.

Pursuant to Section 112 of the Act, regulations were promulgated at 40 CFR §61.60 et seq. for the control of vinyl chloride emissions. These regulations, the National Emission Standard for Vinyl Chloride, establish certain requirements which apply to plants which produce polyvinyl chloride. More specifically, these regulations set standards for relief valve discharges (40 CFR §61.65(a)), manual vent valve discharges (40 CFR §61.64(a)(3)), manual venting of gases (40 CFR §61.65(b)(5)), and equipment openings (40 CFR §61.65(b)(6)).

As the owner and/or operator of a polyvinyl chloride manufacturing facility which is subject to the regulatory requirements of Section 112 of the Act, the Hooker Chemical Company, Ruco Division ("Hooker") is hereby required, pursuant to the authority of Section 114 of the Act and subject to the sanctions set out in Section 113 of the Act, to submit the information called for in Attachment I concerning relief valve discharges, manual vent valve discharges, and other releases of vinyl chloride at its facility at River Road, Burlington, New Jersey.

This is to inform you that Hooker may, if it so desires, assert a business confidentiality claim covering all or part of the information being requested. The claim may be asserted by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend or other suitable form of notice employing language such as "trade secret,"

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"proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by EPA. If Hooker desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state. Information covered by such claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in Subpart B, Part 2, Chapter I of Title 40 of the Code of Federal Regulations (40 CFR 2.201 et seq.). If no such claim accompanies the information when it is received by EPA, it may be made available to the public by EPA without further notice to you.

This information must be submitted within 20 days from the receipt of this letter to Kenneth Eng, Chief, Air & Environmental Applications Section, Planning & Management Division, at this address. In addition, any change in the information must be reported no later than 5 days after such change occurs. This continuing requirement to provide notification of changes in the information covered by this letter will remain in effect until expressly terminated in writing by this office.

You may address any questions concerning this matter to Samuel P. Moulthrop, Esq., Enforcement Division, telephone number (212) 264-1196.

Sincerely yours,

Julio Morales-Sanchez  
Director  
Enforcement Division

Attachment

cc: Bruce L. Harrison  
Capehard & Scatchard

w/attachment

Edward J. Londres  
Assistant Director  
Bureau of Air Pollution Control  
New Jersey Department of Environmental  
Protection

w/attachment

Mr. Raymond Abramowitz  
Director of Regulatory Affairs  
Hooker Chemical Company

w/attachment

bcc: J. Menczel, 2 AIR-AF  
M. Kantz, 2 AIR-AF  
K. Eng, 2 PM-PA

ATTACHMENT I

Request for Information Pursuant to Section 114 of the Clean Air Act

1. Please list the dates of all relief valve discharges of vinyl chloride monomer ("VCM") subsequent to October 21, 1978 at the Hooker Chemical Company ("Hooker") polyvinyl chloride manufacturing facility at Burlington, New Jersey (hereinafter "the plant") caused (solely or in part) by premature failure of rupture disks, and for each such incident provide the following information:

- a. The length of time the rupture disk was in service prior to its failure.
- b. The manufacturer of the disk.
- c. The type of disk (the material out of which the disk was made)
- d. The corrective action taken immediately after the discharge in order to prevent subsequent rupture disk failures.

2. By letter of August 14, 1979 from Raymond Abramowitz of Hooker to Marcus Kantz of EPA Hooker reported that on the weekend of August 11 and 12, 1979 all rupture disks made of nickel at the plant were replaced with rupture disks made of nickel and teflon. Prior to August 11, 1979 how frequently and on what basis were rupture disks replaced at the plant?

3. Subsequent to August 12, 1979 how frequently and on what basis are (or will) rupture disks (be) replaced at the plant?

4. On what date did the Hooker Chemical Company order the teflon and nickel rupture disks which were substituted for the nickel rupture disks on the weekend of August 11 and 12, 1979?

5. Please state the names and positions of:

- a. The Hooker officials or employees who made the decision to replace the rupture disks on August 11 and 12, 1979.
- b. The Hooker officials or employees whose recommendations or opinions were relied upon to make the decision to replace the rupture disks.

6. a. Please set forth the reasons why the nickel rupture disks were replaced by the teflon and nickel rupture disks.

b. From what source did Hooker learn of these reasons?

c. On what date did the Hooker Chemical Company first learn of these reasons?

7. a. Are the teflon and nickel rupture disks now being used at the plant more expensive than the nickel rupture disks previously used?

b. If so, how much more expensive are the teflon and nickel rupture disks than the nickel rupture disks?

8. Why did Hooker not install the teflon and nickel rupture disks at the plant prior to August 11, 1979?

9. Has Hooker used teflon and nickel rupture disks at any other plant which it owns and which is subject to the requirements of 40 CFR §61.60 et seq.?

10. If the answer to Question #9 is yes, please state the name, type, and location of each plant which has used such disks and indicate the date on which teflon and nickel rupture disks were first used at each such plant.

11. At the Burlington plant does Hooker use degassing techniques to control pressure surges in the prepolymerizers ("prepos") and postpolymerizers ("popos") during reaction?

12. If the answer to Question #11 is yes, please provide the following information:

- a. Is the degassing a part of the monomer recovery process?
- b. If so, describe the degassing procedures and methods including the types of equipment used.
- c. Is pressure released to surge tanks as part of the procedure?
- d. If so, what is the capacity of each surge tank?
- e. Is degassing automatic or manual?
- f. On which polymerizers is degassing used?

13. In regard to the techniques Hooker employs to control or prevent unexpected temperature and pressure rises in the prepos and popos:

- a. Describe the general equipment and procedures used, including the normal order of use.
- b. Are chemical shortstops used?
- c. If chemical shortstops are used, list them and briefly describe why they are effective and the basis of their effectiveness.
- d. If chemical shortstops are not used,
  - i. Describe the reasons, if any, why Hooker is prevented from doing so.
  - ii. Describe the reasons, if any, why Hooker chooses not to use shortstops.

14. Please describe the steps which were taken immediately prior to the following discharges of VCM in an effort to prevent them:

- a. The discharge from popo 3B on February 14, 1979?
- b. The discharge from popo 4A on March 14, 1979?
- c. The discharge from popo 3A on June 24, 1979?

15. In regard to the February 14, 1979 discharge from popo 3B:

- a. Why did Hooker charge an excess of initiator to the popo?
- b. What steps were taken to insure that the proper amount of initiator was used?

16. In regard to the March 14, 1979 discharge from popo 4A, what steps were taken to insure that the experimental resin batch would not result in uncontrollable pressure rises in the popo?

17. When experimental resins are to be produced at the plant, what steps does Hooker now take to insure that the proper amount of initiator is used?

18. By letter of February 26, 1979 from Raymond Abramowitz of Hooker to Marcus Kantz of EPA Hooker reported that on February 19, 1979 500 gallons of vinyl chloride were released upon the opening of the outdoor gas surge tank which feeds the incinerator. In regard to this release:

- a. What is the capacity of the surge tank?
- b. Describe in detail the purpose and use of the tank.
- c. When liquid normally collects in the tank:

i. What is its approximate composition?

ii. Is it normally removed from the tank?

iii. If so, why is it removed from the tank?

iv. How is it normally removed? Is it removed to equipment, process, etc., or is it normally released to the ground?

- d. Prior to the time of the release, had Hooker issued any written or verbal instructions to appropriate personnel concerning these procedures?
- e. If so, please describe the instructions and provide copies of any written instructions.
- f. Had the personnel who released the VCM received the instructions described above?
- g. If so, please state when and in what form (written or verbal).
- h. Please state the name and position of the personnel who released the VCM.
- i. Did these persons follow their instructions in opening the tank?
- j. If they did not follow instructions, why did they not do so?
- k. Why did they open the tank, releasing the VCM?
- l. What steps has Hooker taken to insure that such discharges do not occur in the future?
- m. Please state the names and positions of:
1. The Hooker employees who opened the outdoor gas surge tank.
  11. The Hooker employees who supervised those doing so.

19. By letter of February 26, 1979 Hooker also reported that on February 21, 1979 100 gallons of vinyl chloride were released from two caustic scrubbers.

In regard to these releases:

- a. The February 26, 1979 states that the scrubbers were vented to allow them to be used to receive VCM flushes from the day tank.
1. Was this done to clear the blockage in the feed lines from the monomer recovery system and the day tank?



11. How many flushes were required to clear the blockage?
111. Please supply a schematic diagram showing the flow lines, valves, and directions of flow involved in this flushing process and in normal use of the equipment (including the day tank, the scrubbers, the monomer recovery system, etc.) and explain the procedure.

- b. What were the contents of the scrubbers at the time of the release?
- c. What steps, if any, were taken to reduce the quantity of VCM in the scrubbers before they were opened?
- d. What steps has Hooker taken to prevent recurrence of a similar incident?
- e. Please state the names and positions of:

1. The Hooker employees who vented the two scrubbers.
11. The Hooker employees who supervised those doing so.

20. By letter of May 7, 1979 from Harold Dubec of Hooker to Marcus Kantz of EPA Hooker reported that on May 1, 1979 500 pounds of VCM were released manually from a vent valve on popo 1C. In regard to this release:

- a. Had the vent filter been cleaned on that day? If not, why not?
- b. Had the degassing filter which precedes the vent filter been cleaned and inspected after the previous batch? If not, why not?
- c. If anything unusual resulted from the inspections and cleanings described in a or b, above, please describe what occurred or what was observed.
- d. What steps had Hooker taken prior to this release in order to prevent plugging of the vent filter?

e. What steps has Hooker taken subsequent to this release to prevent future releases due to plugging of the vent filters at the plant?

f. Please state the names and positions of

1. The Hooker personnel who manually vented the VCM.
11. The Hooker personnel who supervised those doing so.

21. In the May 7, 1979 letter referred to in Question 20, Hooker stated that written instructions had been given to all production supervision at the plant that "manual vent valves are only to be used in conditions of emergency when rupture disk operation has failed to control reaction pressure."

a. Please provide a copy of these written instructions.

b. Do the instructions mean that manual vent valves are to be used only after the rupture disk set pressure has been surpassed and the disk has ruptured or failed to rupture? Please explain.

22. By letter of August 14, 1979 from Raymond Abramowitz of Hooker to Marcus Kantz of EPA Hooker reported that it had taken certain steps to prevent relief valve discharges. In paragraph #2 on page 2 of the August 14, 1979 letter (Attachment I(A)) Hooker asserted that it had increased its efforts "in the areas of inspection and maintenance." Please describe in detail those measures to which this paragraph refers.

23. By letter of January 30, 1980 from Harold Dubec, Jr. of Hooker to Marcus Kantz of EPA Hooker reported that on January 27, 1980 300 pounds of VCM had been released manually from a vent valve on popo 4D. In regard to this release:

- a. Did the supervisory and operating personnel follow the procedures included in their instructions cited in Hooker's May 7, 1979 letter to EPA described in Question #21?
- b. Subsequent to the discharge what steps has Hooker taken to prevent subsequent similar discharges?

24. By letter of February 7, 1980 from Harold Dubec, Jr. of Hooker to Marcus Kantz of EPA Hooker reported that on February 1, 1980 4940 pounds of VCM were released from the north rupture disks on popo 1A. In regard to this discharge:

- a. What steps did Hooker take to insure that the proper amount of initiator was used in the affected batch prior to charging the reactor?
- b. What steps has Hooker taken to prevent clogging of the pressure transmission lines at the plant?
- c. Please state the names and positions of Hooker personnel who were operating popo 1A at the time of the discharge.

25. How frequently does Hooker plan to clean all pressure transmission lines at the plant?

26. By letter of March 5, 1980 from Harold Dubec, Jr. of Hooker to Marcus Kantz of EPA, Hooker reported that on January 21, 1980 3000 pounds of VCM were manually released from popo 1D. In regard to this release:

- a. Did the Hooker employees who were present when the popo was charged follow prescribed procedures for charging the popo?

- b. If the Hooker employees did not follow prescribed procedures, which procedures were not followed and which person(s) failed to follow the procedures? Please state each person's name and position.
- c. If the Hooker employees did follow prescribed procedures, have the procedures been changed to prevent a future discharge for the same or similar reasons?
- d. If such procedures have been changed, describe how they have been changed.

27. In regard to the January 21, 1980 discharge from popo 1D:

- a. Please state the name of the foreman who instructed the control room operator to open the manual vent valves.
- b. Please state the name of the control room operator who opened the manual vent valves.
- c. Why was this discharge not recorded in the log book kept in the Control Room of the resin facility at the plant?
- d. When did the control room operator first inform his supervisors, other than the foreman, of the discharge?
- e. Please state the name(s) and position(s) of the supervisor(s) other than the foreman who the control room operator first informed.
- f. When did the foreman first inform his supervisors of the discharge?
- g. Please state the name(s) and position(s) of the supervisor(s) who the foreman first informed.

h. When did the January 21, 1980 discharge first come to the attention of Harold F. Dubec, Manager - Environmental Compliance, Hooker Chemical Company? -

i. Why did the control room operator and foreman delay in reporting the discharge to their supervisors?

j. Prior to the January 21, 1980 discharge had Hooker instructed all foreman and operators to report discharges immediately?

On what date(s) were these instructions given?

k. What steps has Hooker taken to insure that all future discharges are promptly reported?

#### ATTACHMENT 4

### Survey of Relief Valve and Manual Vent Valve Discharges from PVC Plants

#### For each plant:

#### A. Equipment information

1. Number and size of reactors used (for each type of resin, if known)
2. Number of batches per year (for each type of resin, if known)
3. Age of plant

#### B. Discharge information

1. Number of discharges by year (1981 - 1983)
2. Size of each discharge
3. Frequency of three most common causes of discharges for each plant (for each type of resin, if known) - e.g., operator error, maintenance error, batch thickening, overcharging the reactor, water or VCM meter failure, power failure, premature rupture disc failure